

REMARKS

Claims 1, 2, 4, 7, 11 and 13 have been amended. New claims 25 and 26 have been added. Claims 21-24 have been withdrawn. Claims 1-20 and 25-26 remain in the application.

Group 1, directed to claims 1-20, was elected with traverse by the Applicant on June 15, 2006 at the request of the Examiner. Claims 21-24 are withdrawn from consideration as being directed to a non-elected invention.

The abstract of the disclosure is objected to as being over 150 words. The abstract has been amended accordingly.

Claims 1,4,5,7,11 and 12 were rejected under 35 U.S.C. 102(b) as being anticipated by Castaldi (US Patent 5,031,638). The applicant respectfully traverses this rejection.

U.S. Patent Number 5,031,638 to Castaldi discloses a direct-formed mouthguard, a blank for use in making the mouthguard and a method of making the mouthguard. The blank 10 is arcuate in shape and includes an anterior arch portion 12, and two posteriorly extending end portions 16, 18. The blank has an inner lingual flange 26, that is adjacent the labial portion of the teeth, an outer labial-buccal flange 28 that is adjacent the buccal portion of the teeth, and a connecting portion 30 joining the lingual and labial buccal flanges that is adjacent the occlusal portion of the user's teeth. The blank is a three-layered composite having an inner layer 32, a core layer adjacent to and coextensive with the inner layer, and an outer layer adjacent to and coextensive with the core layer. The core is formed from a rigid force-transmitting layer having a softening temperature above the predetermined softening temperature of the inner and outer layers. The core provides structural support throughout

the arcuate length of the blank when the blank is heated and inner and outer layers are molded. The core material is a thermoplastic having a softening temperature above 160 degrees, and is a copolymer of ethylene and vinyl acetate. The cross-sectional shape of the blank is constant throughout. The blank is heated, and then the user bites down on the blank to form an impression on the inner and outer layers. When the user's teeth are subjected to an applied force, the outer later absorbs some of the force, and the remaining force is transferred to the force-transmitting layer, which transmits the force around the buccal, occlusal and labial surfaces of each tooth. Castaldi does not disclose a mouthguard having a force transmitting layer that distributes an applied force across only the buccal surface of the teeth, as disclosed by the Applicant.

In contradistinction, claim 1 as amended discloses a mouthguard to protect an arch of a user that includes an outer wall covering a buccal surface of teeth in the arch of the user. The outer wall includes a force absorbing inner layer, a force absorbing outer layer and a force transmitting layer positioned therebetween said force absorbing inner layer and said force absorbing outer layer. The force-transmitting layer is generally planar and includes a predetermined arrangement of fibers bonded together. An inner wall is positioned opposite the outer wall, and covers a palatal surface of teeth in the arch of the user. The inner wall includes only the force absorbing inner layer and the force absorbing outer layer. A lower wall connects the outer wall and the inner wall, and covers an occlusal surface of teeth in the arch of the user. The lower wall includes only the force absorbing inner layer and the force absorbing outer layer. The outer wall, inner wall and lower wall form a U-shaped channel that is molded in the shape of the arch of the user, and the force transmitting layer distributes an applied force through the force transmitting layer transversely across only the buccal surface of the teeth.

Claim 13 is similar to claim 1, and includes additional limitations.

Castaldi does not disclose, anticipate or otherwise suggest the claimed invention of claim 1 as amended. Castaldi '638 merely discloses a blank for a direct-formed mouthguard having an outer layer, an inner layer and a rigid inner core, and that the rigid inner core is adjacent to and coextensive with the inner layer and outer layer, to overlie the lingual, buccal and occlusal surfaces of the user's teeth. Castaldi '638 does not disclose a mouthguard having an outer wall, defined by an outer layer, a force transmitting layer, and an inner layer; an inner wall defined by only an outer layer and an inner layer, and a lower wall joining the outer wall and inner wall that is defined by only an inner layer and an outer layer, as disclosed by the applicant. The present application is clearly distinguishable since only the outer wall includes the generally planar force-transmitting layer, so that the force transmitting layer is only adjacent the buccal portion of the each tooth.

Castaldi '638 merely discloses that the rigid core layer has a U-shape in order to provide structural support to the blank when molding into a mouthguard. Castaldi '638 merely discloses that the rigid core layer is made from a rigid force transmitting thermoplastic material having a softening temperature above 160 degrees, i.e. a copolymer of ethylene and vinyl acetate. Castaldi '638 does not discloses that the force transmitting layer is generally planar, and includes a predetermined arrangement of fibers bonded together, as disclosed by the applicant. The physical structure and material structure of Castaldi '638 is clearly distinguishable from the present application. The present applicant does not rely on the rigidness of the force transmitting layer or shape of the force transmitting layer, to provide necessary structural support to the mouthguard, as taught by Castaldi '638.

In fact, Castaldi '638 teaches away from the present invention, since it discloses that the entire tooth is enclosed by the force transmitting layer, so that an applied force is transmitted both around the buccal, occlusal and labial surface of the tooth, as well as across each of the teeth in the arch. Castaldi '638 does not disclose that the force transmitting layer is only adjacent the buccal surface of the tooth, so that an applied force is only transmitted transversely across the buccal surface of the teeth that are adjacent the force transmitting layer, as disclosed by the applicant. The applicant's invention provides for improved force transmission and force absorption, as compared to the cited reference.

Since the structure and function of the Castaldi '638 mouth guard are distinguishable from Applicant's invention, Applicant's invention is not anticipated by Castaldi '638. Therefore, it is respectfully submitted that claim 1 as amended and the claims dependent therefrom are allowable over the rejection under 35 U.S.C. 102(b).

Claims 2, 6, 8-10, 13 and 15-20 were rejected under 35 U.S.C. 103(a) as being unpatentable over Castaldi. The applicant respectfully traverses this rejection for the reasons set forth above with respect to Castaldi '638. Therefore, it is respectfully submitted that claims 2,6, 8-10, 13 and 15-20 as amended are allowable over the rejection under 35 U.S.C. 103(a).

Claims 3 and 14 were rejected under 35 U.S.C. 103(a) as being unpatentable over Castaldi in view of Kallestad et al. (U.S. Patent Number 3,943,924). The applicant respectfully traverses this rejection for the reasons set forth above with respect to Castaldi. Further, claims 3 and 14 depend from claims 1 and 13 respectively, which applicant submits are in a condition for allowance. Therefore, it is respectfully submitted that claims 3 and 14 as amended are allowable over the rejection under 35 U.S.C. 103(a).

Based on the above, Applicant submits that the claims are in a condition for allowance, which allowance is respectfully solicited. If the Examiner finds to the contrary, it is respectfully requested that the undersigned in charge of this application be called at the telephone number given below to resolve any remaining issues.

Dated: November 1, 2006

Respectfully submitted,

Electronic signature: /Beverly M. Bunting/
Beverly M. Bunting
Registration No.: 36,072
GIFFORD, KRASS, GROH, SPRINKLE,
ANDERSON & CITKOWSKI, P.C.
2701 Troy Center Drive, Suite 330
Post Office Box 7021
Troy, Michigan 48007-7021
(248) 647-6000
(248) 647-5210 (Fax)
Attorney for Applicant